

WHAT IS CLAIMED IS:

1. A method, associated with a domain name system server, of controlling the transfer of information via a network, said method comprising:

receiving, from a client device, a request for a network address that is associated with a service;

5 selecting a respective one of a plurality of network addresses each of which

corresponds to a respective one of a plurality of servers that are available to provide said service;

transmitting, to said client device, said respective one of said plurality of network addresses so that said client device may transmit at least one service request associated with said service that is to be directed to said respective one of a plurality of network addresses.

10 2. The method of claim 1 further comprising: receiving, from at least one further server, an indication that said further server is available to receive requests associated with said service; and incorporating said network address of said further server into said plurality of network addresses.

3. The method of claim 2 wherein said indication includes at least one of: a network address of said further server, said service and authentication and non-repudiation information.

4. The method of claim 1 further comprising: transmitting, to a database, a request to determine whether said client device is associated with at least one quality of service level; receiving, from said database, a response to said request; and selecting said respective one of said plurality of network addresses based on said response.

5. A method, associated with a database server, of controlling the transfer of information via a network, said method comprising:

receiving, from a domain name server, a request to determine whether a client device is associated with at least one quality of service level;

5 transmitting, to said domain name server, a response to said request such that said domain name server selects a respective one of a plurality of network addresses, each of which corresponds to a respective one of a plurality of servers that are available to provide a service, based on said response.

6. The method of claim 5 wherein said quality of service level is further associated with said service.

7. A method, associated with a server that is currently designated to receive service requests from a client device, of controlling the transfer of information via a network, said method comprising:

transmitting a request to a further server for said further server to receive further service requests from said client device; said server and said further server each being associated with a service;

receiving a response from said further server; and

transmitting, when said response is favorable, an indication to said client device that said further service requests are to be directed to said further server.

8. The method of claim 7 further comprising: transmitting, when said response is favorable, an indication to a domain name server that said server is unavailable to receive service requests associated with said service.

9. The method of claim 7 further comprising: transmitting, prior to transmitting said request to said further server, a request to a database for an available further server that is associated with said domain name.

10. A method, associated with one of a domain name server and a database server, of controlling the transfer of information via a network, said method comprising:

receiving, from a server, a request for an available further server that is associated with a service; said server and said available further server each being associated with said service;

5 transmitting, to said server, a network address for said available further server such that said server may transmit a request to said further server for said further server to receive service requests from a client device; said server being currently designated to receive service requests from said client device.

11. A method, associated with a server, of controlling the transfer of information via a network, said method comprising:

transmitting, to a database, a request for a quality of service level associated with a client device;

5 receiving, from said database, said quality of service level associated with said client device;

transmitting, to a network, a request to provide said quality of service level; and transmitting, when said request for said quality of service level is accepted, a notification of said quality of service level to said client device.

12. The method of claim 11 further comprising: receiving, prior to transmitting said request for said quality of service level associated with said client device, a service

request from said client device; and transmitting, to said client device, a response to said service request; said response including an indication that said notification of said quality of service level is pending.

13. The method of claim 12 wherein said notification of said quality of service level is transmitted before transmission of said response to said service request is completed.

14. The method of claim 11 further comprising: transmitting a request to a further server for said further server to receive service requests from said client device; wherein said notification includes an indication to said client device that said service requests are to be directed to said further server.

15. A method, associated with at least one network element of a network, of controlling the transfer of information via said network, said method comprising:
receiving, from one of a server and a client device, a request to provide a quality of service level for said client device;
transmitting, to a database, a request to verify that said quality of service level is associated with said client device; and
transmitting, when said quality of service level is verified, a notification to said one of said server and said client device that said request to provide said quality of service level is accepted.

16. A method, associated with a network, of controlling the transfer of information via said network, said method comprising:

receiving, from one of a server and a client device, a request to provide a quality of service level for said client device;

transmitting, to a database, a request to verify that said quality of service level is associated with said client device; and

transmitting, when said quality of service level is verified, a notification to said one of said server and said client device that said request to provide said quality of service level is accepted.

17. A method, associated with a database server, of controlling the transfer of information via a network, said method comprising:

receiving, from at least one of a network and a server, a request to verify whether a client device is associated with a quality of service level; and

transmitting, to said at least one of said network and said server, a response to said request such that said network provides said quality of service level for said client device based on said response.

18. A method, associated with a server, of controlling the transfer of information via a network, said method comprising:

receiving, from a client device, a service request at a quality of service level;

transmitting, to a database, a request to verify that said quality of service level is associated with said client device; and

transmitting, when said quality of service level is verified, a response to said client device at said quality of service level.

19. An apparatus, associated with a domain name system server, for controlling the transfer of information via a network, said apparatus being configured to:

receive, from a client device, a request for a network address that is associated with a service;

5 select a respective one of a plurality of network addresses each of which corresponds to a respective one of a plurality of servers that are available to provide said service; and transmit, to said client device, said respective one of said plurality of network addresses so that said client device may transmit at least one service request associated with said service that is to be directed to said respective one of a plurality of network addresses.

20. The apparatus of claim 19 further configured to: receive, from at least one further server, an indication that said further server is available to receive requests associated with said service; and incorporate said network address of said further server into said plurality of network addresses.

21. The apparatus of claim 20 wherein said indication includes at least one of: a network address of said further server, said service, and authentication and non-repudiation information.

22. The apparatus of claim 21 further configured to: transmit, to a database, a request to determine whether said client device is associated with at least one quality of service level; receive, from said database, a response to said request; and select said respective one of said plurality of network addresses based on said response.

23. An apparatus, associated with a database server, for controlling the transfer of information via a network, said apparatus being configured to:

receive, from a domain name server, a request to determine whether a client device is associated with at least one quality of service level;

5 transmit, to said domain name server, a response to said request such that said domain name server selects a respective one of a plurality of network addresses, each of which

corresponds to a respective one of a plurality of servers that are available to provide a service based on said response.

24. The apparatus of claim 23 wherein said quality of service level is further associated with said service.

25. An apparatus, associated with a server that is currently designated to receive service requests from a client device, for controlling the transfer of information via a network, said apparatus being configured to:

transmit a request to a further server for said further server to receive further service requests from said client device; said server and said further server each being associated with a service;

receive a response from said further server; and

transmit, when said response is favorable, an indication to said client device that said further service requests are to be directed to said further server.

26. The apparatus of claim 25 further configured to: transmit, when said response is favorable, an indication to a domain name server that said server is unavailable to receive service requests associated with said service.

27. The apparatus of claim 25 further configured to: transmit, prior to transmitting said request to said further server, a request to a database for an available further server that is associated with said domain name.

28. An apparatus, associated with one of a domain name server and a database server, for controlling the transfer of information via a network, said apparatus being configured to:

receive, from a server, a request for an available further server that is associated with a service; said server and said available further server each being associated with said service; transmit, to said server, a network address for said available further server such that said server may transmit a request to said further server for said further server to receive service requests from a client device; said server being currently designated to receive service requests from said client device.

29. An apparatus, associated with a server, for controlling the transfer of information via a network, said apparatus being configured to:

transmit, to a database, a request for a quality of service level associated with a client device;

receive, from said database, said quality of service level associated with said client device;

transmit, to a network, a request to provide said quality of service level; and

transmit, when said request for said quality of service level is accepted, a notification of said quality of service level to said client device.

30. The apparatus of claim 29 further configured to: receive, prior to transmitting said request for said quality of service level associated with said client device, a service request from said client device; and transmit, to said client device, a response to said service request; said response including an indication that said notification of said quality of service level is pending.

31. The apparatus of claim 30 wherein said notification of said quality of service level is transmitted before transmission of said response to said service request is completed.

32. The apparatus of claim 29 further configured to: transmit a request to a further server for said further server to receive service requests from said client device; wherein said notification includes an indication to said client device that said service requests are to be directed to said further server.

33. An apparatus, associated with a network, for controlling the transfer of information via said network, said apparatus being configured to:

receive, from one of a server and a client device, a request to provide a quality of service level for said client device;

5 transmit, to a database, a request to verify that said quality of service level is associated with said client device; and

transmit, when said quality of service level is verified, a notification to said one of said server and said client device that said request to provide said quality of service level is accepted.

34. An apparatus, associated with a database server, for controlling the transfer of information via a network, said apparatus being configured to:

receive, from at least one of a network and a server, a request to verify whether a client device is associated with a quality of service level; and

5 transmit, to said at least one of said network and said server, a response to said request such that said network provides said quality of service level for said client device based on said response.

35. An apparatus, associated with a server, for controlling the transfer of information via a network, said apparatus being configured to:

receive, from a client device, a service request at a quality of service level;

transmit, to a database, a request to verify that said quality of service level is associated with said client device; and

transmit, when said quality of service level is verified, a response to said client device at said quality of service level.

36. An apparatus, associated with a domain name service server, for controlling the transfer of information via a network, said apparatus comprising:

means for receiving, from a client device, a request for a network address that is associated with a service;

5 means for selecting a respective one of a plurality of network addresses each of which corresponds to a respective one of a plurality of servers that are available to provide said service; and

10 means for transmitting, to said client device, said respective one of said plurality of network addresses so that said client device may transmit at least one service request associated with said domain name that is to be directed to said respective one of a plurality of network addresses.

37. An apparatus, associated with a database server, for controlling the transfer of information via a network, said apparatus comprising:

means for receiving, from a domain name server, a request to determine whether a client device is associated with at least one quality of service level;

5 means for transmitting, to said domain name server, a response to said request such that said domain name server selects a respective one of a plurality of network addresses, each of which corresponds to a respective one of a plurality of servers that are available to provide a service based on said response.

38. An apparatus, associated with a server that is currently designated to receive service requests from a client device, for controlling the transfer of information via a network, said apparatus comprising:

means for transmitting a request to a further server for said further server to receive further service requests from said client device; said server and said further server each being associated with a service;

means for receiving a response from said further server; and

means for transmitting, when said response is favorable, an indication to said client device that said further service requests are to be directed to said further server.

39. An apparatus, associated with one of a domain name server and a database server, for controlling the transfer of information via a network, said apparatus comprising:

means for receiving, from a server, a request for an available further server that is associated with a service; said server and said available further server each being associated with said service;

means for transmitting, to said server, a network address for said available further server such that said server may transmit a request to said further server for said further server to receive service requests from a client device; said server being currently designated to receive service requests from said client device.

40. An apparatus, associated with a server, for controlling the transfer of information via a network, said apparatus comprising:

means for transmitting, to a database, a request for a quality of service level associated with a client device;

5 means for receiving, from said database, said quality of service level associated with said client device;

means for transmitting, to a network, a request to provide said quality of service level;
and

means for transmitting, when said request for said quality of service level is accepted, a notification of said quality of service level to said client device.

41. An apparatus, associated with at least one network element of a network, for controlling the transfer of information via said network, said apparatus comprising:

means for receiving, from one of a server and a client device, a request to provide a quality of service level for said client device;

means for transmitting, to a database, a request to verify that said quality of service level is associated with said client device; and

means for transmitting, when said quality of service level is verified, a notification to said one of said server and said client device that said request to provide said quality of service level is accepted.

42. An apparatus, associated with a network, for controlling the transfer of information via a network, said apparatus comprising:

means for transmitting, to a database, a request for a quality of service level associated with a client device;

means for receiving, from said database, said quality of service level associated with said client device;

means for transmitting, to a network, a request to provide said quality of service level;
and

means for transmitting, when said request for said quality of service level is accepted, a notification of said quality of service level to said client device.

43. An apparatus, associated with a database server, for controlling the transfer of information via a network, said apparatus comprising:

means for receiving, from at least one of a network and a server, a request to verify whether a client device is associated with a quality of service level; and

means for transmitting, to said at least one of said network and said server, a response to said request such that said network provides said quality of service level for said client device based on said response.

5 44. An apparatus, associated with a server, for controlling the transfer of information via a network, said apparatus comprising:

means for receiving, from a client device, a service request at a quality of service level;

means for transmitting, to a database, a request to verify that said quality of service level is associated with said client device; and

means for transmitting, when said quality of service level is verified, a response to said client device at said quality of service level.

45. A readable medium, associated with a domain name system server, comprised of instructions for the transfer of information via a network, said instructions comprising:

instructions for receiving, from a client device, a request for a network address that is associated with a service;

5 instructions for selecting a respective one of a plurality of network addresses each of
which corresponds to a respective one of a plurality of servers that are available to provide
said service; and

10 instructions for transmitting, to said client device, said respective one of said plurality
of network addresses so that said client device may transmit at least one service request
associated with said service that is to be directed to said respective one of a plurality of
network addresses.

46. The medium of claim 45 further comprising: instructions for receiving, from
at least one further server, an indication that said further server is available to receive requests
associated with said service; and instructions for incorporating said network address of said
further server into said plurality of network addresses.

47. The medium of claim 46 wherein said indication includes at least one of: a
network address of said further server, said service, and authentication and non-repudiation
information.

48. The medium of claim 45 further comprising: instructions for transmitting, to a
database, a request to determine whether said client device is associated with at least one
quality of service level; instructions for receiving, from said database, a response to said
request; and instructions for selecting said respective one of said plurality of network
addresses based on said response.

49. A readable medium, associated with a database server, comprised of
instructions for the transfer of information via a network, said instructions comprising:
instructions for receiving, from a domain name server, a request to determine whether
a client device is associated with at least one quality of service level;

5 instructions for transmitting, to said domain name server, a response to said request such that said domain name server selects a respective one of a plurality of network addresses, each of which corresponds to a respective one of a plurality of servers that are available to provide a service, based on said response.

50. The medium of claim 49 wherein said quality of service level is further associated with said service.

51. A readable medium, associated with a server that is currently designated to receive service requests from a client device, comprised of instructions for the transfer of information via a network, said instructions comprising:

instructions for transmitting a request to a further server for said further server to receive further service requests from said client device; said server and said further server each being associated with a service;

instructions for receiving a response from said further server; and

instructions for transmitting, when said response is favorable, an indication to said client device that said further service requests are to be directed to said further server.

52. The medium of claim 51 further comprising: instructions for transmitting, when said response is favorable, an indication to a domain name server that said server is unavailable to received service requests associated with said service.

53. The medium of claim 51 further comprising: instructions for transmitting, prior to transmitting said request to said further server, a request to a database for an available further server that is associated with said domain name.

54. A readable medium, associated with one of a domain name server and a database server, comprised of instructions for the transfer of information via a network, said instructions comprising:

instructions for receiving, from a server, a request for an available further server that
5 is associated with a service; said server and said available further server each being associated with said service;

instructions for transmitting, to said server, a network address for said available further server such that said server may transmit a request to said further server for said further server to receive service requests from a client device; said server being currently designated to receive service requests from said client device.

55. A readable medium, associated with a server, comprised of instructions for the transfer of information via a network, said instructions comprising:

instructions for transmitting, to a database, a request for a quality of service level associated with a client device;

instructions for receiving, from said database, said quality of service level associated with said client device;

instructions for transmitting, to a network, a request to provide said quality of service level; and

instructions for transmitting, when said request for said quality of service level is
10 accepted, a notification of said quality of service level to said client device.

56. The medium of claim 55 further comprising: instructions for receiving, prior to transmitting said request for said quality of service level associated with said client device, a service request from said client device; and instructions for transmitting, to said client device,

a response to said service request; said response including an indication that said notification of said quality of service level is pending.

57. The medium of claim 56 wherein said notification of said quality of service level is transmitted before transmission of said response to said service request is completed.

58. The medium of claim 55 further comprising: instructions for transmitting a request to a further server for said further server to receive service requests from said client device; wherein said notification includes an indication to said client device that said service requests are to be directed to said further server.

59. A readable medium, associated with at least one network element of a network, comprised of instructions for the transfer of information via said network, said instructions comprising:

instructions for receiving, from one of a server and a client device, a request to provide a quality of service level for said client device;

instructions for transmitting, to a database, a request to verify that said quality of service level is associated with said client device; and

instructions for transmitting, when said quality of service level is verified, a notification to said one of said server and said client device that said request to provide said quality of service level is accepted.

10 60. A readable medium, associated with a network, comprised of instructions for the transfer of information via said network, said instructions comprising:

instructions for receiving, from one of a server and a client device, a request to provide a quality of service level for said client device;

instructions for transmitting, to a database, a request to verify that said quality of service level is associated with said client device; and

instructions for transmitting, when said quality of service level is verified, a notification to said one of said server and said client device that said request to provide said quality of service level is accepted.

61. A readable medium, associated with a database server, comprised of instructions for the transfer of information via a network, said instructions comprising:

instructions for receiving, from at least one of a network and a server, a request to verify whether a client device is associated with a quality of service level; and

instructions for transmitting, to said at least one of said network and said server, a response to said request such that said network provides said quality of service level for said client device based on said response.

62. A readable medium, associated with a server, comprised of instructions for the transfer of information via a network, said instructions comprising:

instructions for receiving, from a client device, a service request at a quality of service level;

instructions for transmitting, to a database, a request to verify that said quality of service level is associated with said client device; and

instructions for transmitting, when said quality of service level is verified, a response to said client device at said quality of service level.